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Remarks

In view of the following discussion, the applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U. S. C. § 103. Thus, the applicants believe that all of these claims are in allowable form.

OBJECTIONS

A. Specification

The Examiner objects to the title of the invention. In particular, the Examiner indicates that the title is not descriptive. As such, the applicants have amended the title of the invention. In view of applicant's amendment to the title of the invention, the basis for the Examiner's objection thereto has been removed. Thus, it is respectfully requested that this objection be withdrawn.

REJECTIONS

A. 35 U. S. C. § 103

1. Claims 1 and 3-11 are not obvious over Park in view of Kuhfus

Claims 1 and 3-11 stand rejected under 35 U. S. C. § 103(a) as obvious over Park (U. S. Patent 5,568,367 issued October 22, 1996) in view of Kuhfus (U. S. Patent 4,349,705 issued September 14, 1982). The applicants submit that these claims are not rendered obvious by the combination of these references.

Claim 1 is directed to a remote control 1 including a housing 2, 6, a circuit board 5, a keypad 4 and a light pipe 3 (see, FIG. 1 and the specification at page

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3, lines 2-4). The housing includes a top cover 2 with a plurality of apertures 20 and a bottom cover 6 (see, FIG. 1 and the specification at page 3, lines 2-3). The circuit board 5 has a light emitting diode 14 (see, FIG. 1 and the specification at page 3, lines 6-8). The keypad 4 has a base 12 with a plurality of buttons 9 that extend through the apertures 20 of the top cover 2 (see, FIGS. 1 and 4 and the specification at page 3, lines 12-13). The light pipe 3 is positioned on a top surface 12 of the keypad 4 between the top cover 2 of the housing and the keypad 4 so light is dispersed through the light pipe 3 to the plurality of buttons 9 (see, FIG. 1 and the specification at page 3, line 21 to page 4, line 9).

Park describes a remote control with key lighting (see, Park at column 1, lines 6-7). The remote control 8 includes a housing 12, 14, a circuit board 20, a spacer plate 28, a contact plate 30, a locating plate 40 and a transparent elastomeric plate 26 (see, Park at FIG. 4 and column 3, line 35 to column 4, line 34). The circuit board 20 includes a plurality of light emitting elements 21 as well as contacts 31 (see, Park at FIG. 4 and column 3, lines 45-60). The spacer plate 28 is positioned directly above the circuit board 20 and includes openings for the light emitting elements 21 and the contacts 31 (see, Park at FIG. 4 and column 3, lines 58-59). The contact plate 30 is positioned on the spacer plate includes openings above the light emitting elements 21 and is adapted to make contact with the contacts 31 on the circuit board 20 (see, Park at FIG. 4 and column 3, lines 58-62). The locating plate 40 with openings 41 above contacts 31 is positioned on the contact plate 30 (see, Park at FIG. 4 and column 4, lines 12-16). The transparent elastomeric plate 26 is seated on the locating plate 40 with push-buttons 52 extending downward through openings 41 to make contact plate 30 touch contacts 31 (see, Park at FIG. 4 and column 4, lines 26-57).

Park does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Park teaches a completely different arrangement in which a transparent elastomeric

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plate with push-buttons extending downward therefrom is seated in openings on a locating plate. Since Park does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 1 is patentable over Park.

Kuhfus describes a lighted telephone dial (see, Kuhfus at column 1, lines 4-5). In Kuhfus, a light guide plate 25 is positioned on an LED frame 62 which is positioned on a pushbutton member 21 (see, Kuhfus at FIG. 1).

Kuhfus does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Kuhfus teaches a completely different arrangement in which a light guide plate of a telephone dial is positioned on an LED frame which is positioned on a pushbutton member. Since Kuhfus does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 1 is patentable over Kuhfus.

Since Park teaches an arrangement in which a transparent elastomeric plate with push-buttons extending downward therefrom is seated in openings on a locating plate and Kuhfus only teaches a light guide plate of a telephone dial positioned on an LED frame which is positioned on a pushbutton member, the combination of these references does not describe or suggest applicants arrangement recited in claim 1. In particular, claim 1 recites a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Furthermore, Park could not be modified as suggested by the Examiner

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since the locating plate must necessarily be positioned below the transparent elastomeric plate since it is used to provide openings through which the push-buttons make contact between the contact plate and the contacts on the circuit board. Thus claim 1 is patentable over the combination of these references.

Claims 3-11 depend, directly, or indirectly from claim 1. In view of this dependency the applicants submit that claims 3-11 are also patentable over Park in view of Kuhfus.

2. Claims 1-4 and 9-11 are not obvious over Park in view of Pasco

Claims 1-4 and 9-11 stand rejected under 35 U. S. C. § 103(a) as obvious over Park (U. S. Patent 5,568,367 issued October 22, 1996) in view of Pasco (U. S. Patent 5,053,928 issued October 1, 1991). The applicants submit that these claims are not rendered obvious by the combination of these references.

Claim 1 is directed to a remote control 1 including a housing 2, 6, a circuit board 5, a keypad 4 and a light pipe 3 (see, FIG. 1 and the specification at page 3, lines 2-4). The housing includes a top cover 2 with a plurality of apertures 20 and a bottom cover 6 (see, FIG. 1 and the specification at page 3, lines 2-3). The circuit board 5 has a light emitting diode 14 (see, FIG. 1 and the specification at page 3, lines 6-8). The keypad 4 has a base 12 with a plurality of buttons 9 that extend through the apertures 20 of the top cover 2 (see, FIGS. 1 and 4 and the specification at page 3, lines 12-13). The light pipe 3 is positioned on a top surface 12 of the keypad 4 between the top cover 2 of the housing and the keypad 4 so light is dispersed through the light pipe 3 to the plurality of buttons 9 (see, FIG. 1 and the specification at page 3, line 21 to page 4, line 9).

Park describes a remote control with key lighting (see, Park at column 1, lines 6-7). The remote control 8 includes a housing 12, 14, a circuit board 20, a spacer plate 28, a contact plate 30, a locating plate 40 and a transparent elastomeric plate 26 (see, Park at FIG. 4 and column 3, line 35 to column 4, line 34). The circuit board 20 includes a plurality of light emitting elements 21 as well

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as contacts 31 (see, Park at FIG. 4 and column 3, lines 45-60). The spacer plate 28 is positioned directly above the circuit board 20 and includes openings for the light emitting elements 21 and the contacts 31 (see, Park at FIG. 4 and column 3, lines 58-59). The contact plate 30 is positioned on the spacer plate includes openings above the light emitting elements 21 and is adapted to make contact with the contacts 31 on the circuit board 20 (see, Park at FIG. 4 and column 3, lines 58-62). The locating plate 40 with openings 41 above contacts 31 is positioned on the contact plate 30 (see, Park at FIG. 4 and column 4, lines 12-16). The transparent elastomeric plate 26 is seated on the locating plate 40 with push-buttons 52 extending downward through openings 41 to make contact plate 30 touch contacts 31 (see, Park at FIG. 4 and column 4, lines 26-57).

Park does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Park teaches a completely different arrangement in which a transparent elastomeric plate with push-buttons extending downward therefrom is seated in openings on a locating plate. Since Park does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 1 is patentable over Park.

Pasco describes a lighted telephone keypad (see, Pasco at column 1, lines 4-11). In Pasco, a light guide 1 is positioned over keys 5 formed on a mat-like member 5 (see, Pasco at FIGS. 1-3 and column 3, lines 32-57).

Pasco does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Pasco teaches a completely different arrangement in which a light guide is positioned

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over keys formed on a mat-like member. Since Pasco does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 1 is patentable over Pasco.

Since Park teaches an arrangement in which a transparent elastomeric plate with push-buttons extending downward therefrom is seated in openings on a locating plate and Pasco only teaches a light guide positioned over keys formed on a mat-like member, the combination of these references does not describe or suggest applicants arrangement recited in claim 1. In particular, claim 1 recites a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Furthermore, Park could not be modified as suggested by the Examiner since the locating plate must necessarily be positioned below the transparent elastomeric plate since it is used to provide openings through which the push-buttons make contact between the contact plate and the contacts on the circuit board. Thus claim 1 is patentable over the combination of these references.

Claims 2-4 and 9-11 depend directly from claim 1. In view of this dependency the applicants submit that claims 2-4 and 9-11 are also patentable over Park in view of Pasco.

3. Claims 12-20 are not obvious over Novak et al. in view of Kuhfus

Claims 12-20 stand rejected under 35 U. S. C. § 103(a) as obvious over Novak et al. (U. S. Patent 4,636,593 issued January 13, 1987) in view of Kuhfus (U. S. Patent 4,349,705 issued September 14, 1982). The applicants submit that these claims are not rendered obvious by the combination of these references.



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Claim 12 is directed to a remote control 1 including a housing 2, 6, a circuit board 5, a keypad 4 and a light pipe 3 (see, FIG. 1 and the specification at page 3, lines 2-4). The housing includes a top cover 2 with a plurality of apertures 20 and a bottom cover 6 (see, FIG. 1 and the specification at page 3, lines 2-3). The circuit board 5 has a light emitting diode 14 (see, FIG. 1 and the specification at page 3, lines 6-8). The keypad 4 has a base 12 with a plurality of buttons 9 that extend through the apertures 20 of the top cover 2 (see, FIGS. 1 and 4 and the specification at page 3, lines 12-13). The light pipe 3 is positioned on a top surface 12 of the keypad 4 between the top cover 2 of the housing and the keypad 4 so light is dispersed through the light pipe 3 to the plurality of buttons 9 (see, FIG. 1 and the specification at page 3, line 21 to page 4, line 9).

Novak et al. describes a light conducting elastomeric keypad (see, Novak et al at column 1, lines 9-16). The elastomeric keyboard assembly includes a housing 110, a circuit board 130 and an elastomeric keypad 120 having keys 124 thereon (see, Novak et al. at FIG. 1 and column 2, lines 13-22).

Novak et al. does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Novak et al. teaches a completely different arrangement in which an elastomeric keyboard assembly includes a housing, a circuit board and an elastomeric keypad having keys thereon. Since Novak et al. does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 12 is patentable over Park.

Kuhfus describes a lighted telephone dial (see, Kuhfus at column 1, lines 4-5). In Kuhfus, a light guide plate 25 is positioned on an LED frame 62 which is positioned on a pushbutton member 21 (see, Kuhfus at FIG. 1).

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Kuhfus does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Kuhfus teaches a completely different arrangement in which a light guide plate of a telephone dial is positioned on an LED frame which is positioned on a pushbutton member. Since Kuhfus does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 12 is patentable over Kuhfus.

Since Novak et al. teaches an arrangement in which an elastomeric keyboard assembly including a housing, a circuit board and an elastomeric keypad having keys thereon and Kuhfus only teaches a light guide plate of a telephone dial positioned on an LED frame which is positioned on a pushbutton member, the combination of these references does not describe or suggest applicants arrangement recited in claim 12. In particular, claim 12 recites a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Furthermore, Novak et al. could not be modified as suggested by the Examiner since the light is transmitted through the elastomeric keypad. Thus claim 12 is patentable over the combination of these references.

Claims 13-20 depend, directly, or indirectly from claim 12. In view of this dependency the applicants submit that claims 13-20 are also patentable over Novak et al. in view of Kuhfus.



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4. Claims 12-13 and 17-20 are not obvious over Novak et al. in view of Pasco

Claims 12-13 and 17-20 stand rejected under 35 U. S. C. § 103(a) as obvious over Novak et al. (U. S. Patent 4,636,593 issued January 13, 1987) in view of Pasco (U. S. Patent 5,053,928 issued October 1, 1991). The applicants submit that these claims are not rendered obvious by the combination of these references.

Claim 12 is directed to a remote control 1 including a housing 2, 6, a circuit board 5, a keypad 4 and a light pipe 3 (see, FIG. 1 and the specification at page 3, lines 2-4). The housing includes a top cover 2 with a plurality of apertures 20 and a bottom cover 6 (see, FIG. 1 and the specification at page 3, lines 2-3). The circuit board 5 has a light emitting diode 14 (see, FIG. 1 and the specification at page 3, lines 6-8). The keypad 4 has a base 12 with a plurality of buttons 9 that extend through the apertures 20 of the top cover 2 (see, FIGS. 1 and 4 and the specification at page 3, lines 12-13). The light pipe 3 is positioned on a top surface 12 of the keypad 4 between the top cover 2 of the housing and the keypad 4 so light is dispersed through the light pipe 3 to the plurality of buttons 9 (see, FIG. 1 and the specification at page 3, line 21 to page 4, line 9).

Novak et al. describes a light conducting elastomeric keypad (see, Novak et al. at column 1, lines 9-16). The elastomeric keyboard assembly includes a housing 110, a circuit board 130 and an elastomeric keypad 120 having keys 124 thereon (see, Novak et al. at FIG. 1 and column 2, lines 13-22).

Novak et al. does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Novak et al. teaches a completely different arrangement in which an elastomeric keyboard assembly includes a housing, a circuit board and an elastomeric keypad having keys thereon. Since Novak et al. does not

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describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 12 is patentable over Park.

Pasco describes a lighted telephone keypad (see, Pasco at column 1, lines 4-11). In Pasco, a light guide 1 is positioned over keys 5 formed on a mat-like member 5 (see, Pasco at FIGS. 1-3 and column 3, lines 32-57).

Pasco does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Rather, Pasco teaches a completely different arrangement in which a light guide is positioned over keys formed on a mat-like member. Since Pasco does not describe or suggest a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons, claim 12 is patentable over Pasco.

Since Novak et al. teaches an arrangement in which an elastomeric keyboard assembly including a housing, a circuit board and an elastomeric keypad having keys thereon and Pasco only teaches a light guide positioned over keys formed on a mat-like member, the combination of these references does not describe or suggest applicants arrangement recited in claim 12. In particular, claim 12 recites a remote control having a housing, a circuit board, a keypad and a light pipe in which the light pipe is positioned on a top surface of the keypad between a top cover of the housing and the keypad so light is dispersed through the light pipe to the plurality of buttons. Furthermore, Novak et al. could not be modified as suggested by the Examiner since the light is transmitted through the elastomeric keypad. Thus claim 12 is patentable over the combination of these references.

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Claims 13 and 17-20 depend, directly, or indirectly from claim 12. In view of this dependency the applicants submit that claims 13 and 17-20 are also patentable over Novak et al. in view of Pasco.

CONCLUSION

Thus, the applicants submit that none of the claims, presently in the application, are obvious under the provisions of 35 U. S. C. § 103. Consequently, the applicants believe that all of the claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone, Ms. Patricia A. Verlangieri, at (609) 734-6867, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

  
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